

## Recovery Plan Action Status

**Plan Name:** Appalachian Northern Flying Squirrels (2 spp.)

**Plan Status:** Final

**Plan Date:** 24-Sep-90

**Lead Agency:** USFWS

**Lead Office:** Asheville Ecological Services Field Office

(258-3939)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	1	Delineate occupied and potential habitat	Ongoing Current	Prior to FY 1995		National Park Service, Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Habitat Requirements, Research: Habitat Status	Internal Technical Assistance, Species Expert	Habitat models completed for two GRAs; working to refine existing models and to see if they can be expanded to use across the remainder of the range
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	10	Monitor ongoing studies of effects of spruce/fir die-offs	Ongoing Current	Prior to FY 1995		National Park Service, Forest Service , Environmental Protection Agency , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research, Research: Habitat Status	Internal Technical Assistance	

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	11	Study population size/habitat size and quality relationships	Ongoing Current	Prior to FY 1995		Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Work type not yet selected	Labor type not yet selected	
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	12	Investigate accumulation of toxins in food supply	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Environmental Contaminants, Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research, Research: Habitat Status	Contract	
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	13	Study behavioral interactions with other squirrels	Ongoing Current	Prior to FY 1995		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Population Surveys	Labor type not yet selected	

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	14	Examine genetic variation within and among populations	Ongoing Current	Prior to FY 1995		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Genetics	Contract	UGA and NCWRC collaborated to collect DNA from hair and ear tissue samples (awaiting final results). UNCW currently examining genetics of SW Virginia population.
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	15	Designate data coordinator in each state	Complete	Prior to FY 1995	Prior to FY 1995	Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Work type not yet selected	Labor type not yet selected	By virtue of the State collecting permits, all captures are reported to the NCWRC
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	16	Develop policy for translocation/reintroduction	Discontinued	Prior to FY 1995	Prior to FY 1995	Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Work type not yet selected	Labor type not yet selected	Accomplished methodology will be developed if/when policy changes

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	17	Protect occupied habitat through land acquisition, etc	Ongoing Current	Prior to FY 1995		National Park Service, The Nature Conservancy, Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Acquisition, Acquisition: Management Agreement	Labor type not yet selected	
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	18	Provide training for state and Federal foresters, game managers, and others	Ongoing Current	Prior to FY 1995		National Park Service, Forest Service , USFWS Regional Office 4 - Atlanta, Regional Office 5	Other: Information and Education	Internal Technical Assistance	Ongoing communication with stakeholders.
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	19	Coordinate with private landowners to eliminate or minimize threats to populations	Ongoing Current	FY 2000 - FY 2004		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Management: General	Internal Field Assistance, Internal Technical Assistance	

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	2	Survey potential habitat to locate additional populations	Ongoing Current	Prior to FY 1995		National Park Service, Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Other: Regulations	Internal Field Assistance, Internal Technical Assistance	Project clearance surveys; NCWRC surveying additional sites in NC; USFS surveying additional sites on Cherokee NF in TN.
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	3	20	Study dispersal or mycorrhizal fungi	Unknown	Prior to FY 1995		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Habitat Status	Internal Field Assistance, Internal Technical Assistance	
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	3	21	Prepare and distribute educational displays and informational materials	Ongoing Current	Prior to FY 1995		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Other: Information and Education	Internal Technical Assistance	

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	3	Monitor known populations	Ongoing Current	Prior to FY 1995		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Population Surveys	Internal Field Assistance	Ongoing long-term nest box monitoring by NCWRC and other partners in NC. The Eastern Band of Cherokee Indians has been monitoring sites on the Cherokee Indian Reservation since 2006.
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	4	Study effects of - timber operations	Ongoing Current	Prior to FY 1995		Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Habitat Requirements, Research: Habitat Status	Internal Field Assistance	Opportunities limited to date because habitat is normally avoided.
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	5	Examine effects of Strongyloids and other pathogens	Ongoing Current	Prior to FY 1995		Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Work type not yet selected	Labor type not yet selected	

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	6	Develop and refine habitat management guidelines	Ongoing Current	Prior to FY 1995		National Park Service, Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance	
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	7	Implement habitat management guidelines	Ongoing Current	Prior to FY 1995		National Park Service, Forest Service , Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	1	8	Protect individual squirrels and their habitat through enforcement of the ESA and other laws	Ongoing Current	Prior to FY 1995		National Park Service, U.S. Fish and Wildlife Service, Law Enforcement Division, Forest Service, Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Management: Planning	Internal Field Assistance, Internal Technical Assistance	NCWRC, VA Tech and USFWS are working to develop a rapid survey technique for the Carolina northern flying squirrel using acoustic detectors. This could greatly help with Section 7 consultation. Additionally, there is potential for this to be useful in advancing other recovery actions including #2, 3 and 19.
Carolina northern flying squirrel (Glaucomys sabrinus coloratus)	2	9	Determine importance of spruce/fir	Complete	Prior to FY 1995	FY 2000 - FY 2004	Forest Service, Fish and Wildlife Enhancement, USFWS Regional Office 4 - Atlanta, Regional Office 5, State wildlife agencies of all participating states (VA Department of Game and Inland Fisheries, WV Department of Natural Resources, NC Wildlife Resources, and TE Wildlife Resources Agency)	Research: Habitat Requirements	Internal Field Assistance, Internal Technical Assistance	